

chapter 6

M O B I L I T Y

CHAPTER SIX - MOBILITY

A WALKABLE COMMUNITY VISION

Being able to get around Winchester is a key part of quality of life. Having mobility choices means residents, workers, and visitors can drive, ride a bus, bike, or walk around the city. Every option feels safe, efficient, and right for a certain kind of task.

- Children get to and from school safely and get some exercise at the same time.
- City residents walk to certain work, shopping or entertainment destinations, meeting neighbors and friends along the way.
- Tourists experience the city's rich history and architecture along with the modern sights, sounds, and smells of a vibrant downtown business district.
- Young and old, rich and poor, with or without disabilities, find equal access to make the most of Winchester's opportunities.
- Upper-story apartments downtown provide convenience to vibrant afternoon and evening businesses in walking distance.
- Some students walk or bike between Shenandoah University and the downtown while others catch a bus from the city to Lord Fairfax Community College.
- Educated workers don't choose commuting as a necessity, and innovative new firms come to them.
- Residents enjoy walking or biking for recreation, errands, or work along the linked open spaces of the Green Circle Trail

For the first 200 years of its history, Winchester did business by foot, horse, and train. Today's sustainable vision recaptures that bustling downtown, without the horses. A balanced blend of mobility choices will help invigorate the city's economy and culture while reducing stress on government services caused by over-reliance on the car.

CITYWIDE MOBILITY OBJECTIVES

As noted in Chapter 3, City Council stated twelve citywide Mobility objectives to address the citywide goal of: *Create and maintain a safe, efficient, and environmentally sustainable mobility and transportation network that is interconnected, multi-modal, and that facilitates walkable urban land use patterns less dependent upon personal vehicle use.*

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This chapter explains what is already happening with each objective and what can be done in the future to improve mobility. The twelve objectives are:

OBJECTIVES:

1. Pursue limited construction of new thoroughfares and widening of existing thoroughfares as shown in the [Win-Fred MPO Long Range Transportation Plan](#).
 - a) Monitor state and federal funding streams and changing city needs to prioritize certain roadway projects from the MPO plan.
 - b) Advocate rail infrastructure projects to reduce freight traffic congestion on Interstate 81, consistent with City Council Resolution 2003-50
2. Employ a hierarchy of functional street categories including thoroughfare streets for major traffic movements through and within the community at higher speeds; collector streets to channel major traffic movements into and out of separate areas of the community at moderate speeds; and, local streets to provide access to individual properties at lower speeds.
- ~~3. Encourage the use of alternate modes of mobility including walking, bicycling, and public transportation by all sectors of the population to reduce the dependency upon private automobile use.~~
4. Working with the MPO, complete an updated survey of traffic patterns to classify city streets according to their intended function
5. Encourage the use of alternate modes of mobility including walking, bicycling, and public transportation by all sectors of the population to reduce the dependency upon private automobile use.
 - a) Implement the recommendations of the MPO's [2014 Bicycle and Pedestrian Master Plan and pending 2020 BikeShare Study](#)~~2007 Bike and Pedestrian Mobility Plan~~.
 - I. Complete the Green Circle Trail.
 - II. Add miles of bike lane to arterial and collector road
 - III. Install bike racks, and encourage businesses to do the same.
 - b) Implement the recommendations of the MPO's [2009 Transit Services Plan](#).
 - I. Increase WinTran route frequency to more than once an hour.
 - II. Extend WinTran out into Frederick County's most urbanized areas to serve the needs of both city and county residents and visitors.
 - III. Add bike racks to WinTran buses.
6. Encourage the growth and sustainability of the urbanized area of the City by providing adequate and convenient parking and a comprehensive system of sidewalks and walking paths.
 - a) Address identified sidewalk deficiency by filling in gaps in the system.
 - b) Construct new sidewalk.

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- c. Maintain all sidewalks and respond quickly to complaints.
 - d. Identify and widen certain sidewalks to create outdoor social spaces.
 - e. Identify streets where new parallel parking spaces would benefit business and calm traffic.
 - f. Use the MPO plans to link Frederick County trail projects to city infrastructure.
 - g. Increase pedestrian connection points between the Old Town pedestrian mall and the George Washington and Braddock Street parking garages.
- 5) Alter conventional street standards especially in mixed use and planned residential developments by encouraging New Urbanistic layouts of interconnected grid streets.
 - a) Prioritize pedestrian-friendly street designs in neighborhood redevelopment projects.
 - b) Rewrite the current Zoning Ordinance, subdivision ordinance, and Engineering Standards so as to encourage New Urbanism, including elements of Traditional Neighborhood Design (TND).
- 6) Employ access management and consider use of roundabouts to provide for traffic calming and improved safety.
 - a. Study speed, flow, and accident data to identify streets most in need of calming.
 - b. Pilot different calming techniques including roundabouts, green medians, on-street parking, and pedestrian islands.
 - c. Continue efforts to reduce the number of driveway openings within close proximity of each other through use of driveway spacing standards and in conjunction with public street improvement projects.
 - d. Implement the recommendations of the MPO's multimodal corridor studies for Berryville Avenue and S. Pleasant Valley Road ~~Millwood Avenues~~.
- 7) Investigate the needs for multimodal transfer facilities.
 - a. Construct covered bus shelters, especially at multimodal intersections near parking garages or the Green Circle Trail.
- 8) Work closely with Frederick County and Stephens City to extend public transportation between the City and destinations such as Lord Fairfax Community College, DMV, the Employment Commission/Job Training office, and the regional detention facilities as well as urbanizing areas of the County and Town.
 - a. Implement the operational changes and undertake the capital expenses needed to develop a truly regional transit service that allows City residents to access services currently situated beyond the limits of existing transit routes.
- 9) Promote Telecommuting as an alternative to commuting to work.
 - a. Adopt telework incentives for city staff where appropriate.
 - b. Encourage and support telework among private firms.

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~~10) Support the resumption of rail passenger service to Winchester.~~

- ~~a. Partner with Amtrak and the Maryland Area Rail Commuter system to study a spur service to Martinsburg, WV.~~

10) Increase safety on thoroughfare streets and bike and pedestrian trails where they cross railroad tracks and consider grade-separated crossings.

- a. Study improvements needed to rail crossings such as Featherbed Lane for safely accommodating an immediate alignment of the Green Circle Trail including a safe means for crossing the CSX railroad tracks.

11) Expand and improve general aviation, air cargo, and air passenger operations at the Winchester Regional Airport.

- a. Support MPO efforts to add hanger space, technology, and amenities at the airport.

12) Pursue development of projects and works that are in line with the Vtrans 2040 Master Plan.

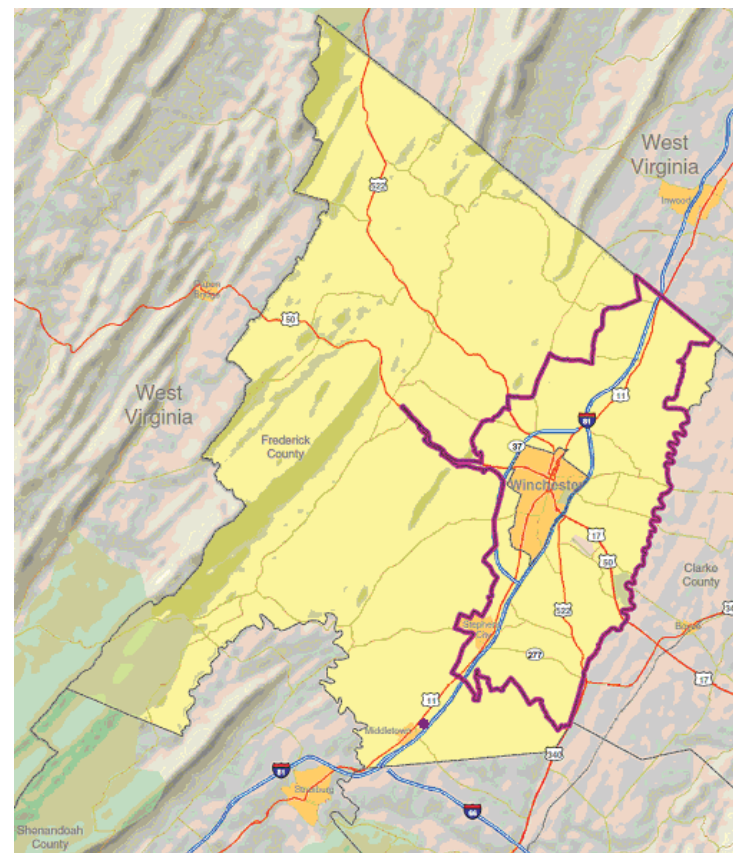
13) Pursue development of a bike share program that serves Winchester through stations at Shenandoah University, Old Town, and the Medical Center

1. Pursue limited construction of new thoroughfares and widening of existing thoroughfares as shown in the Win-Fred MPO Long Range Transportation Plan.

In the 20th century, Winchester and Frederick County governments planned and built roads after consulting the state Department of Transportation. The two governments did not formally consult with each other. That changed when the 2000 Census revealed strong population growth. For the 21st century, federal law mandates consideration of the city and the parts of the county as one urban area, outlined in purple on the map. The urban area also includes Stephens City, but not Middletown.

The Winchester-Frederick Metropolitan Planning Organization (MPO) promotes partnership to best develop the metropolitan area. It includes the parts of Frederick County, including the Town of Stephens City, which are most urban or most likely to urbanize within the next 20 years. The MPO cooperates with three major partners in state and federal government: the Virginia Department of Transportation, the Federal Highway Administration, and the Federal Transit Administration.

The MPO maintains eds a long-range transportation plan to help the area adapt to new demands on mobility infrastructure. The MPO adopted the 2030 Long Range Plan in 2005. ~~It uses Census and survey data to map current population and levels of traffic, then incorporated projections of population, housing, and employment growth to forecast greater congestion in 2030. An update looking out to 2035 is slated for approval in 2011.~~



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The MPO Long Range Plan offers detailed choices for programs of road maintenance and construction to address the congestion. The most comprehensive option costs at least \$1.8 billion over the next 20 years, mostly because of new road construction. The biggest planned project is the extension of Route 37 around the east of Winchester to form a loop of limited access highway around the city. Other large projects are a western bypass around Stephens City and roads to relieve congestion in suburbs east of Winchester and Stephens City.

Under the current 2030 plan, projects within the City of Winchester include:

- Widen Route 11 to five lanes from the southern city limit to West Tevis Street.
- Widen Amherst Street to six lanes from the western city limit to Keating Drive.
- ~~Widen Featherbed Lane to four lanes.~~
- Relocate Papermill Road to connect with Battaile Drive, remove the Papermill Road bridge over I-81, and build a new interchange with I-81 at Battaile Drive.
- Extend West Jubal Early Drive to Route 37 and build an interchange.
- Extend Meadow Branch Avenue to Route 50.
- Expand the I-81 interchanges at Route 50 and Rte 7.
- Widen I-81 to six with Collector-Distributor (CD) lanes or to eight lanes without CD lanes.
- ~~Widen Weems Lane to five lanes.~~
- Extend Pleasant Valley Road from Cedarmeade Avenue up to Battaile Drive.
- Extend Hope Drive to Pleasant Valley Road and realign Tevis Street and Papermill Road to intersect with Hope Drive at a four-way intersection on the west side of a new CSX rail crossing.
- ~~Widen the northernmost section of Fairmont Ave (Rte 522).~~
- Extend Frontage Road and Legge Boulevard to connect with each other.
- Redesign the street network in the area of Millwood Ave, Jubal Early Drive, Apple Blossom Drive, University Drive, and Frontage Road to include grade separation of Jubal Early Drive over a reconnected local street connection of Millwood Ave and Frontage Road. The project would include ramps to and from Millwood and Frontage Road for access to and from I-81 via Jubal Early Drive.
- Widen Shawnee Drive and Battaile Drive each to four lanes.

These projects aim to reduce traffic congestion on Interstate 81, on Millwood Pike and the suburban roads east of Winchester, and in Stephens City and the suburban areas east of that town. However, it is not certain that adequate state and federal funding will become available. Even under the MPO Plan, traffic congestion will remain in several areas of Winchester: Berryville Avenue, Pleasant Valley Road, Jubal Early Drive, parts of Amherst Street and Valley Avenue, and some downtown streets. This anticipated congestion assumes continued suburban growth. The compact, mixed use development called for in this Plan may reduce traffic congestion and the need for new roads.

Freight truck traffic contributes to congestion on I-81, causing pollution and accidents. Improvement to the interstate and the Route 37 bypass are the most expensive components of the Long Range Plan. Freight rail on CSX tracks already provides important support to Winchester's industries. So expanding rail service is part of one plan to reduce congestion of I-81. Improving Norfolk Southern tracks

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between Knoxville and Harrisburg and making increased use of the Inland Port transfer facility near Front Royal could divert hundreds of trucks from the Winchester area each day. In 2003, Winchester and the MPO approved resolutions supporting expanded freight rail service and upgrades to known I-81 bottlenecks. Railroad firms would share costs with local, state, and federal agencies. Since 2003, little progress has occurred. Winchester's elected officials should advocate reasonable rail solutions to freight transport issues in the area.

City staff should monitor state and federal funding and changing city needs to prioritize projects from the MPO plan. But while the MPO's 2030 Transportation Plan may improve safety and convenience of travel on the interstate and other main traffic arteries, it does not present a complete mobility solution for Winchester. This Comprehensive Plan fills in some of the gaps.

The MPO's Bike and Pedestrian Mobility Plan of 2007 addresses others. State and federal funding formulas favor road construction projects which also have non-motorized features. Local road improvements and new construction are more likely to receive state and federal aid if they include trails, calming features, and other multi-use elements. For example, federal dollars could completely fund a "Safe Route to School" project with improvements to bike lanes, trails, calming, and signage between neighborhoods and the local school.

The 2007 Mobility Plan identifies 14.6 miles of sidewalk and bike lane enhancements to occur along with road repairs and upgrades; these will gradually improve mobility in the city at little additional cost. The plan prioritizes certain sidewalk and bike facility enhancements through 2017. It observes that creating multi-use street and trail networks during a development project saves money compared to retrofitting streets after the fact. Finally, the 2007 Mobility Plan recommends revisions to the Zoning Ordinance, City Code, and proffer requests to enhance bike and pedestrian facilities over time. Winchester should continue to implement and support the 2007 Bike and Pedestrian Mobility Plan.

2. Employ a hierarchy of functional street categories including thoroughfare streets for major traffic movements through and within the community at higher speeds; collector streets to channel major traffic movements into and out of separate areas of the community at moderate speeds; and, local streets to provide access to individual properties at lower speeds.

Understanding the volume and speed of traffic, and classifying streets by their size, capacity, and use can assist in planning for multimodal mobility. On local streets, with light traffic at low speeds, bicycles can share the road safely and conveniently. But on arterial and major collector roads, bike lanes enhance safety and traffic flow. Pedestrian crossings are another issue. On local streets and minor collectors, stop signs and crosswalks often suffice. With larger streets, pedestrian signals with timers promote safety. However, principal arterials have so many lanes often with heavy traffic that pedestrian signals may remain inefficient and unsafe; in these cases, pedestrian bridges or tunnels may be best.

Improving mobility in Winchester requires detailed traffic data and classifying of streets. City staff should continue to work with the MPO to update traffic pattern surveys.

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3. Encourage the use of alternate modes of mobility including walking, bicycling, and public transportation by all sectors of the population to reduce the dependency upon private automobile use.

Too many cars on Winchester's streets create a number of problems. Traffic congestion wastes time and money. It stresses residents and businesses. It deters firms from locating downtown. It pollutes the air. Hundreds of crashes endanger lives and property. Traffic congestion reduces the quality of life in Winchester.

One solution is to build more and wider roads. This solution, however, is very resource intensive, and requires space that the city has in short supply. An alternative other solution, which this plan will emphasize, is for driving to become less necessary. A mode of transportation is a way of getting around. Multimodal mobility means having choices of how to move in Winchester and using them so as to save time, use less fuel, and even have more fun. The city should enhance its multimodal options.

At the turn of the twentieth century, bicycles provided a cheap and clean alternative to the horse in Winchester. Today there are twice as many bikes as cars in use worldwide, and the bicycle is increasingly popular for urban recreation, shopping, and commuting. Yet Winchester today is not very safe or convenient for bicyclists. Four improvements are listed below.

- Winchester should complete the Green Circle Trail. This project combines bike lanes, trails, and quiet sections of street to create a loop around the central and downtown neighborhoods. Spurs will extend to the south and west.
- Winchester should also add miles of bike lane to arterial and collector roads so bicycles can move safely, and the city should install bike racks and encourage businesses to do the same. Some cities combine bike racks and public art in creative ways shown on the right. Winchester could consider sponsorship of local craftsmen for such work.
- Winchester should implement and support the recommendations of the MPO's 2007 Bike and Pedestrian Mobility Plan. It lists upgrades to many city and county streets. Partner studies with Frederick County should identify priority bike lanes or trails to connect neighborhoods, shopping centers, and historic sites in the city with those in the county. Studies should focus on connecting dense suburban developments to downtown Winchester.

Winchester currently operates four small buses to serve the Winchester Transit (WinTran) system in the city. There are six routes, with stops every hour. Routes run north and south along Loudoun and Cameron Streets, Valley Avenue, and Pleasant Valley Road. Other routes run east and west along Amherst Street and Berryville Avenue. All the routes meet downtown, near City Hall. Fares in 2010 were \$1 .00, with discounts for students, seniors, and individuals with disabilities. WinTran runs from 6 am to 8 pm on weekdays and from 9 am to 5 pm on Saturdays.



Practical sculptures in Louisville; Sacramento; and Palisade, Colorado.

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In 2019, the City began placing Bike Sharrows in the street, to encourage shared roads between automobile drivers and cyclists. In the coming years, Winchester's population will demand greater public transit service. The city will be home to more people who do not have cars. Some of them will be impoverished, but others will be students, environmentally conscious citizens, and the elderly. Public transit will be critical to preserving the mobility and quality of life of the city's growing elderly population and others who choose not to drive. WinTran should expand its services, specifically by:

- Using surveys and use patterns to add additional routes where potential exists.
- Increasing route frequency to more than once an hour.
- Partnering with Frederick County to consider more routes beyond the city limits, especially to southeastern subdivisions and Lord Fairfax Community College.
- Constructing more covered bus shelters especially at multimodal intersections near parking garages or the Green Circle Trail.
- Advertising WinTran's services, especially to tourists and other infrequent users.

Winchester does not yet have the kind of congestion and parking stresses which make bus services highly desirable for commuters and younger residents in large cities. Public transit becomes more viable when it links areas of walkable density. As redevelopment progresses, however, WinTran should be ready to grow and provide an effective alternative to the personal automobile.

Winchester should encourage development of multimodal developments by designating the city an Urban Development Area (UDA), in accordance with state code. By designating the city as a UDA, more urban development patterns, such as multimodal transportation, can be encouraged and the City would become competitive for urban grant funding.



Bike Sharrow markers in Winchester

About one quarter of Winchester's workers commute longer than 30 minutes each way to work, and some of these have long commutes to Washington, D.C. and its suburbs. However, Winchester does not have any formal facilities for park and ride, carpooling, or bus service to the Washington area. City staff should monitor labor statistics, Census data, and surveys. If demand exists, facilitating these services may improve quality of life for Winchester's commuters.

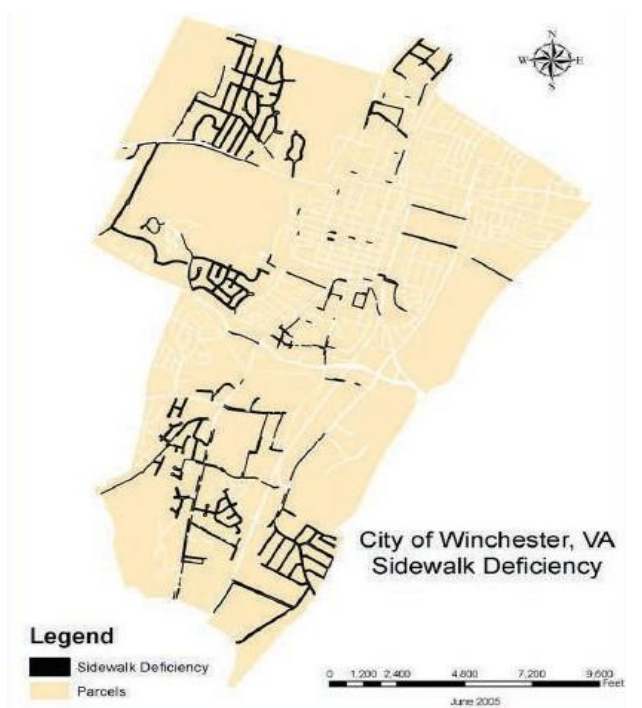
4. Encourage the growth and sustainability of the urbanized area of the City by providing adequate and convenient parking and a comprehensive system of sidewalks and walking paths.

Sidewalks, paths, and parking facilities shape the pedestrian environment and may promote or discourage daily walking. Closed to cars, the Loudoun Street Mall may be Winchester's signature pedestrian feature, but many other elements contribute to a walkable downtown. Pedestrian connections from parking to destinations are helpful, and they should be pursued in conjunction with redevelopment of the adjacent private properties. A new north-south alley between Loudoun and Cameron Streets is one possibility.

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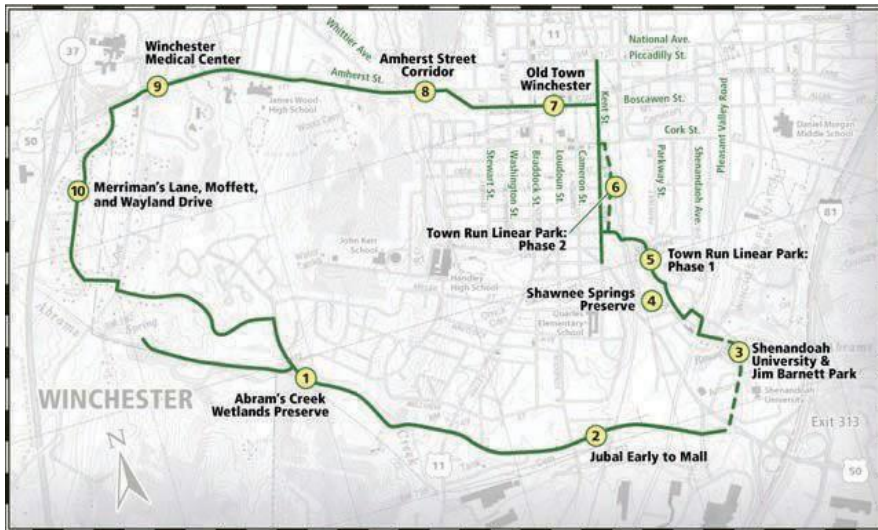
Four parking garages and several surface parking lots provide convenient public parking for the Old Town area. The City Code exempts property owners from providing off-street parking in the historic core area. Churches own most of the private parking lots downtown, and some lease out parking during the weekdays. Very few private developments include structured parking, but this could change with denser redevelopment. Redevelopment concepts such as those suggested for the Ward Plaza site and the Cameron Square project between E. Piccadilly and Baker Street along the east side of N. Cameron Street ~~the block east of Handley High School~~ rely upon structured parking to serve the compact mixed use development of the site.

The black lines on the map at right show the areas of Winchester which have missing sidewalks. Most of the deficiencies are located in the southern, western, and extreme northern areas of the city that were annexed in 1970, while others are situated within residential subdivisions developed in the 1970s and 1980s when the City required very wide streets but not sidewalks. Most of the deficient segments in the older areas of the city are due to difficult terrain. Winchester should build more new sidewalks to address these deficiencies while devoting more resources to maintenance. Finally, sidewalks in some areas should be expanded beyond four feet to create an outdoor space more inviting and useful to businesses and the public. Linking bike and pedestrian improvements with utility replacement and street reconstruction work presents opportunities for considerable savings over time.



In 2018, the City was approved a \$1 million UD Section 108 Loan application for a sidewalk improvements, intended for 2.1 miles of new sidewalks in the north end of Winchester.

The Green Circle Trail, shown on the left, will also help pedestrians and cyclists. A recreational path for running or walking, it will also provide a scenic and healthy commuting option for some residents who live and work nearby. The Green Circle Trail is Winchester's primary pedestrian and bike path project, but the city should continue to investigate others per the MPO's 2007 Bike and Pedestrian Mobility Plan. Partnerships with local businesses, nonprofit organizations, and railroads may yield new paths which connect neighborhoods, shopping centers, and historic and cultural sites.



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5. Alter conventional street standards especially in mixed use and planned residential developments by encouraging New Urbanistic layouts of interconnected grid streets.

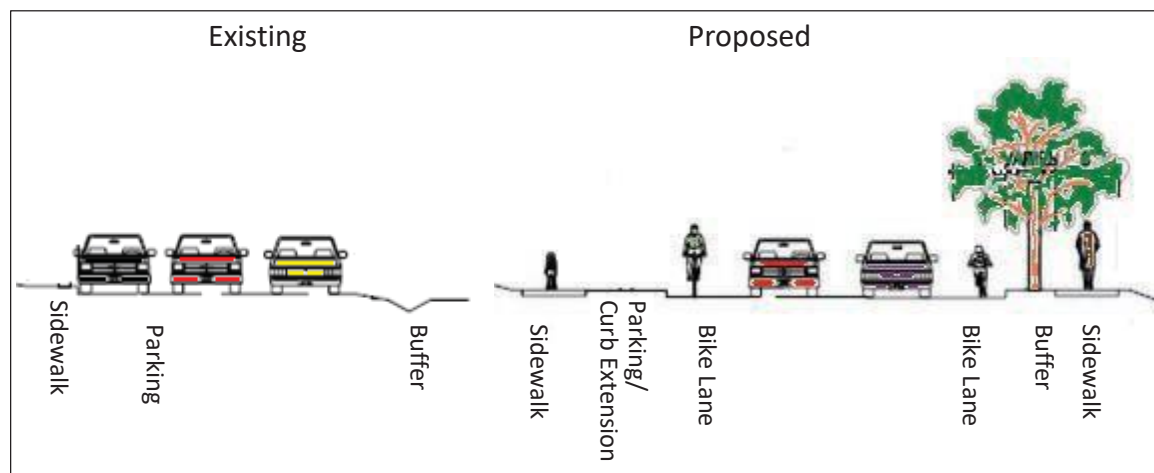
Streets are critical infrastructure for cities. The street space may contain a number of important elements, including:

- Sidewalk space for pedestrians
- Patio space for businesses
- Soil space for plants, including trees
- Parking space for vehicles
- Narrow lanes for bicycles
- Wider lanes for automobiles
- Under the pavement, pipes and conduits for sewers, drinking water, stormwater, electrical cables, and data cables.

Street design influences life in a city by channeling people, vehicles, and water. Winchester's current street design does not reflect a commitment to sustainability.

As described in Chapter 2, Euclidean Zoning, which has been in place for upwards of 70 years in some areas of the city, segregates land uses in much of Winchester. Some areas support houses, others apartments, others stores, and still others factories. Another method, which Winchester used for its first 200 years, is compact mixed use development. This practice considers the overall character of a neighborhood. A mixed use neighborhood may feature houses, apartments, parks, offices, stores, and workshops within a few blocks.

In a mixed use development, residents and visitors can easily walk or bike to meet many everyday needs. This keeps cars off the roads, preventing pollution and crashes, saving on energy costs, and improving public health. Winchester should emphasize mixed use development, especially in blighted neighborhoods and obsolete commercial corridors, as a way to improve mobility, quality of life, and the property rights of landowners.



Winchester's streets serve a crucial role in mobility, and the design of streets may promote or restrain choices for how to get around. The drawing at left shows current conditions on many local streets. Only one side of the street has sidewalk, and there are no trees for shade. Bicyclists have to share the road, which can be unsafe.

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The proposed changes shown at on the right add bike lanes. There are sidewalks in both directions. Total parking is not significantly reduced. New trees make walking more comfortable, reduce air and water pollution, and beautify the city.

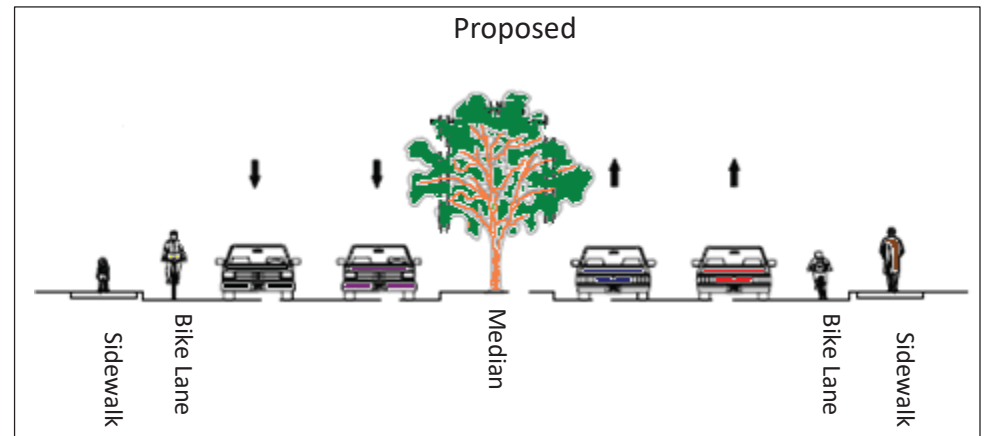
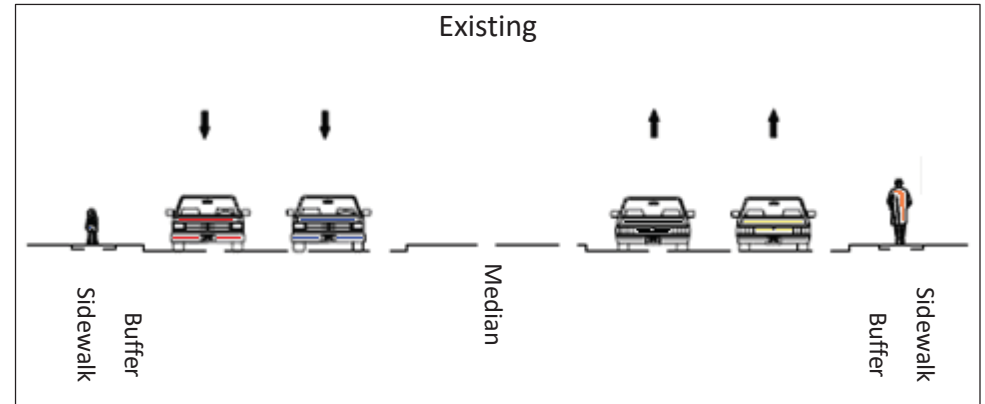
On larger streets, the city has ample space to make improvements that calm traffic and add opportunities for walking and bicycling. At present, traffic on most arterial streets moves too quickly for bicyclists to share the road comfortably.

Adding trees to the median tends to calm traffic while sprucing up the street's appearance. Dedicated bike lanes allow for safer movement. This improved street fosters recreation and social activity while reducing the need for personal vehicles.

Combined with mixed use development, these street designs reduce congestion by making it easier to get around without a car. These street design changes are not appropriate for all neighborhoods, but Winchester should consider alternative street design as one part of redevelopment.

Sections 5-23 through 5-37 of Winchester's Subdivision Ordinance concern streets. Streets should generally run parallel and intersect at right angles to form a grid. The ordinance outlines minimum width requirements for different kinds of streets: the higher the traffic speed and volume, the wider the street must be. Sidewalks must be a minimum of four feet wide and parallel to the streets. The ordinance does not provide for bicycle lanes, and they are rare in Winchester. The City Public Works Department specifies the standards used for street construction, marking, signage, lighting, and decoration. Public Works also maintains all public streets, repainting, clearing snow, filling potholes, and the like. The Tree Commission and City Arborist study and maintain the trees along streets.

Some of Winchester's streets are privately owned and maintained. Planned Unit Developments often have privately owned and maintained streets. The subdivision developer builds the streets, and residents pay homeowners' association fees to maintain them. Private streets must physically link with public streets and follow most of the same standards as to size and maintenance.



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City codes for drainage and stormwater management do not always bind private streets. Public streets keep regular gutters, storm drains, and pipes which collect rainwater and discharge it into creeks. Winchester's private streets do not consistently link with the public stormwater system. This inconsistency is not always bad. Indeed, the public system of pipes collecting all rainwater and channeling it into creeks causes pollution. Rain washes polluting chemicals from streets and parking lots into streams, often with no filtering or treatment. The emerging consensus of sustainable design shifts away from immediate drainage through pipes in favor of using ponds, wetlands, and inexpensive filtering of stormwater through soil. Some of Winchester's private streets heed these principles better than the public streets.

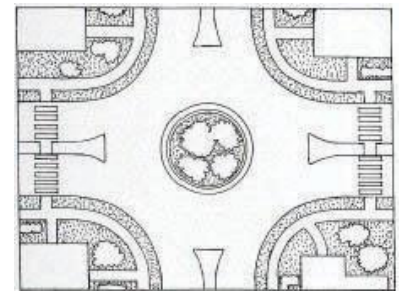
The owners of different private streets maintain them at different levels of quality. Some attentively repair cracks and clear snow, and others do not. However, the city takes responsibility for ensuring safety and mobility. So if a private street is not adequately maintained, the city may issue notice and begin to publicly maintain it. The city can then place tax liens on the affected properties to cover the maintenance costs.

Faced with such a situation, private street owners may offer to sell or give the street to the city. The Virginia Department of Transportation provides the city with grants for road maintenance, but the aid formula only counts streets and roads that meet state criteria for size, safety, and quality. Private streets in Winchester do not always meet the state criteria, so the Council reserves the right to refuse acceptance of a private street.

6. Employ access management and consider use of roundabouts to provide for traffic calming and improved safety.

One part of traffic congestion is how many cars fill the roads at peak hours. Another is how those cars drive. In congestion, cars tend to stop and go, with bottlenecks at stop signals and left turns. Traffic calming refers to technologies which smooth the flow of traffic. Traffic calming reduces drivers' fuel and repair costs, prevents crashes, and improves safety for pedestrians and bicyclists. Four common calming features include:

- Roundabouts. At intersections, traffic circles replace four-way stop signs or lights. Once drivers become comfortable using them, they improve traffic flow and reduce the risk of collisions since all traffic moves consistently counterclockwise. Cutting the idling typical at signalized intersections also reduces air pollution and fuel costs.
- Narrower streets. Simply narrowing a street reduces a driver's perceived safe speed to reduce stop-and-go driving and improve traffic flow. The narrowing may be done by widening sidewalks, painting a bike lane, or building a green median.
- Raised crosswalks. Often made from brick or another distinctive material, raised crosswalks define a pedestrian space and slow cars at intersections without the shock of a speed bump. Their distinctive texture also helps the visually impaired.



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- On-street parking. Parallel parking spaces beside traffic lanes tend to moderate the speed of traffic. On-street parking spaces also add convenience for drivers while preserving lot space: downtown land is more productive as homes and businesses than as parking lots.

After studying speed, flow, and crash data to identify streets most in need of calming, Winchester should employ these and other calming techniques to improve mobility. They may also generate environmental and social benefits.

The MPO commissioned studies to improve access management and traffic flow on Berryville and Millwood Avenues, two of the city's important entry corridors. Barring major changes to development and land use patterns, traffic volume and congestion on these two corridors will grow worse in the next 25 years. Mixed use development and multimodal improvements relieve congestion by reducing trips by car. Winchester should prioritize bus shelters, sidewalk work, bike lanes, and trail projects along these two arterial streets while partnering with Frederick County to extend those services farther east. One cost effective street improvement to reduce congestion is timing and synchronizing traffic lights. Others reduce the number of bottlenecks caused by turning traffic: new medians, fewer commercial driveways, and more and longer dedicated turning lanes. ~~Or the best answer to Millwood congestion might be to close the street altogether — make the difficult intersection a two-acre park and simplify the street grid.~~ The City should move deliberately to improve mobility along these two important gateways.

Another study examined the revitalization of the commercial and residential areas between Piccadilly and Commercial Streets north of Old Town. Traffic calming and rerouting of traffic from Route 522 from residential Fairmont Avenue to the commercial arterials form part of a plan to stimulate business growth. In this instance, street design may serve to improve the peace and safety of a stable neighborhood while bringing new business to an area in need.

7. Investigate the needs for multimodal transfer facilities.

A multimodal transfer facility is a structure where people can conveniently change from one mode of moving to another. Some examples are:

- An on-street parallel parking space beside a good quality sidewalk.
- A parking garage with bike racks and a bus stop at the entrance.
- A walking and biking trail with bus stops at intersections with main streets.
- A bike rack on the sidewalk outside a shopping center.

Most of Winchester's bus stops expose waiting passengers to the elements. The city should construct more covered bus shelters, especially at multimodal intersections near parking garages or the Green Circle Trail. Also, adding inexpensive bike racks to WinTran buses creates another multimodal option for travelers. MPO traffic and demand studies should also survey the habits and preferences of residents and visitors to determine the most needed multimodal transfer facilities.

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8. Work closely with Frederick County and Stephens City to extend public transportation between the City and destinations such as Lord Fairfax Community College, DMV, the Employment Commission/Job Training office, and the regional detention facilities as well as urbanizing areas of the County and Town.

Some Winchester residents use WinTran buses out of environmental consciousness. The number of affluent, retired, and young professional bus riders may increase in the coming years. However, many current and future WinTran customers use the service because poverty or criminal conviction denies them a car. For these customers, the community college, DMV office, employment office, and jail are important destinations which WinTran does not currently serve.

Extending bus service to destinations needed by the community's least privileged is a matter of justice and fairness. The Civil Rights Act requires the MPO to survey the needs of low-income and minority groups, ensuring that mobility policies do not ignore them. Winchester should remain involved with further MPO studies of transit demand, especially as the Census Bureau publishes data from its 202010 count.

9. Promote Telecommuting as an alternative to commuting to work.

In Winchester, as in most cities, the worst traffic congestion occurs during morning and evening rush hours. Roads that easily handle traffic for most of the day become tangled during critical periods. Newly constructed lanes which relieve rush hour congestion are not needed during most of the day and night, so building them is not entirely efficient.

Telework means using computers to work from home rather than going to an office. If a Winchester resident who works from home does not contribute to rush hour congestion. Telework also helps if even half a day's work can be done at home, because someone who drives at 10 am and 3pm is not part of the rush. The city should encourage and support telework among private firms, and it should adopt telework incentives for city staff where appropriate.

~~10. Support the resumption of rail passenger service to Winchester.~~

~~In the 19th century, trains brought important passenger and freight traffic to Winchester. As energy prices continue to increase, rail transportation may become a more common alternative to driving and flying for both passengers and freight. The city should study and encourage expanded rail service.~~

~~There is currently no passenger rail service to Winchester. The Virginia Railway Express commuter service extends only far as Broad Run in Prince William County. Its expansion to Front Royal or Winchester would be badly constrained by mountains. Martinsburg, West Virginia, a half hour's drive north of Winchester, is the closest destination for passenger rail service. Amtrak and Maryland Area Rail Commuter (MARC) trains serve Martinsburg. The MARC train runs rush hour service to Washington by way of Montgomery County. The Amtrak train~~

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~~runs several times daily between Washington and Chicago. City staff should partner with Amtrak and MARC to investigate expansion of passenger rail service to Winchester through a spur from Martinsburg. Another possibility is public or private bus shuttle from Winchester to Martinsburg.~~

10. Increase safety on thoroughfare streets and bike and pedestrian trails where they cross railroad tracks and consider grade-separated crossings.

Railroad tracks in Winchester are a risk for cars, cyclists, and pedestrians. Passing trains pose an obvious threat, but so do poorly maintained and bumpy crossings. Public Works staff should work with railroad firms to improve safety at track crossings. Improvements may include lighting, signage, paving, or above-grade crossing bridges. In particular, improvements are needed to Featherbed Lane for safely accommodating an immediate alignment of the Green Circle Trail including a safe means for crossing the CSX railroad tracks. The City may also want to consider a bike and pedestrian bridge over the CSX rail yard between North Cameron Street and North Kent Street to improve safety for children who currently traverse the rail yard unsafely at grade.

11. Expand and improve general aviation, air cargo, and air passenger operations at the Winchester Regional Airport.

The Winchester Regional Airport is located east of Winchester between Route 50 and Route 522. The airport serves general aviation and current cannot handle commercial flights. Some 81 small aircraft are stored in the hangars there, and the airport averages 161 flights per day. The MPO projects steady growth of general aviation traffic at the airport. Winchester should encourage the addition of new hangar facilities, technology, and amenities.

Dulles International is the nearest major airport, about an hour's drive east of Winchester. If Dulles becomes increasingly crowded and the local population grows, there may be potential to develop commercial service from an enlarged airport in Winchester. The city should seek opportunities to develop freight and passenger flights from the airport similar to that done at the Shenandoah Valley Regional Airport in Weyers Cave, Virginia.

12. Pursue development of projects and works that are in line with the Vtrans 2040 Master Plan.

Every four years, the Commonwealth Transportation Board of Virginia puts together a multi-modal plan. In 2015, the Commonwealth Transportation Board of Virginia approved the Vtrans 2040 Master Plan. In this plan, it identifies needs for intercity rail and freight infrastructure along the Shenandoah Valley, including the City of Winchester, and corridor reliability with I-81. This plan's focus on projects for Winchester Winchester should pursue development of projects that embody these goals.

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14. Pursue development of a bike share program that serves Winchester through stations at Shenandoah University, Old Town, and the Medical Center

Winchester's small size makes it well suited for bike travel. In addition to developing bike infrastructure and safety, the City should pursue development of a bike share program. The City's population would benefit from the ability to transport themselves around the City using such a program. In a bike share, a number of bikes are stored in docks throughout an area. These bikes can be unlocked and used by citizens, who then utilize the bikes as needed. Once they are finished using the bike, it is returned to any one of the bike docks. These programs have been used to considerable success in localities such as Richmond, Roanoke, and Norfolk. By providing a bike share program, the City would serve to help reduce the amount of car traffic. By placing ports at Shenandoah University, Old Town, and the Medical Center, parking and traffic congestion at these primary destinations would be significantly reduced.

The map on the right lays out several possible general locations for bike ports, based on frequented destinations and proximity to residences. In 2019, an RFP was released by the City for a bike share program. The resulting project from that RFP will identify more specific and optimal locations, based on the research and studies that will be performed



Potential locations for bike share ports